



“Trip-Generation Rates Spreadsheet for Smart-Growth Land Use Projects in California”

Objective: The goal of this effort is to develop a methodology and spreadsheet tool that practitioners can use to estimate multi-modal trip-generation rates for proposed smart-growth land use development projects in California. Trip-generation rates are required for traffic impact analyses of proposed projects, and to identify effective multi-modal strategies and improvements to help “mitigate” such projects.

Cost/timeframe: \$285,000 (via Caltrans Division of Research & Innovation). Sept. 2009 - June 2011.

Why? The California Environmental Quality Act (CEQA) and other State, Federal, and local laws require identification, analysis, and mitigation of transportation-related impacts of proposed land use projects. A first step in preparing such Traffic Impact Analyses (TIAs) is estimating the number and types of trips associated with the proposed project (during peak traffic periods and all day). These are commonly referred to as “trip-generation rates.” Traditionally, such estimates are based on data obtained at suburban locations that lack transit or adequate pedestrian facilities (which are published by the national Institute of Transportation Engineers - ITE). Research indicates that the ITE trip rates are not accurate when applied to “smart-growth” land uses, such as: urban infill, downtowns, pedestrian and transit-oriented developments, mixed land uses, etc. Unfortunately, there is currently no commonly accepted methodology, tool, or data in the U.S. for estimating multi-modal trip-generation rates associated with smart-growth land use projects. This makes it extremely difficult for practitioners to accurately estimate the impacts of such projects, or to identify and recommend appropriate or adequate transportation “mitigations” for proposed smart-growth land use projects, including walking, biking, and transit facilities.

Outcomes: The successful completion of this project will enable practitioners to more accurately identify the transportation impacts and benefits of proposed smart-growth land use projects in California. Importantly - it will provide data necessary to identify adequate and appropriately designed multi-modal transportation “mitigations” for such projects, such as: appropriate amounts of parking; adequate transit service; pedestrian and bicycle facilities improvements; as well as needed roadway improvements (traffic signals, auxiliary lanes, lane additions, traffic calming, etc.). It is anticipated that this new tool will be a significant contribution to both the traffic engineering and planning fields.

How? UC Davis researchers - with input from teams of national experts and California practitioners – will use existing research and data to define quantitative relationships among vehicle travel, mode choice, land uses, and other characteristics in representative urban, suburban, and rural locations in California. They will use this data to develop an acceptable analysis methodology, and will then produce a spreadsheet analysis tool based on that methodology. Finally, an independent firm will conduct cordon counts in representative locations in California to validate and calibrate the spreadsheet tool.

Products: This project will produce and disseminate: a methodology; spreadsheet tool; documentation of the methodology and tool; and a clear Users’ manual. It will also provide technical assistance on using the new tool. All products produced will be posted free-of-charge on a publicly available website.

Who benefits? Transportation and land use stakeholders, regional planning agencies, counties, cities, transit agencies, air quality districts, environmental groups, consultants, elected officials, the public, and Caltrans’ Local Development-Intergovernmental Review program, and various other initiatives.

Who will implement this project? UC Davis - Professors Susan Handy & Richard Lee.

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